

PCT**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference BCS047003-WO	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/EP2005/002952	International filing date (day/month/year) 19.03.2005	Priority date (day/month/year) 01.04.2004	
International Patent Classification (IPC) or national classification and IPC INV. A01N43/54 C07D239/52 A01N43/60 C07D251/20			
Applicant BAYER CROPSCIENCE AG			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

- (sent to the applicant and to the International Bureau)* a total of sheets, as follows:
 - sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
- (sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- Box No. I Basis of the report
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

Date of submission of the demand 30.12.2005	Date of completion of this report 15.05.2006
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Gavriliu, D Telephone No. +49 89 2399-



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2005/002952

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
 - international search (under Rules 12.3 and 23.1(b))
 - publication of the international application (under Rule 12.4)
 - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

Description, Pages

1-45 as originally filed

Claims, Numbers

1-7 as originally filed

- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. The amendments have resulted in the cancellation of:
 - the description, pages
 - the claims, Nos.
 - the drawings, sheets/figs
 - the sequence listing (*specify*):
 - any table(s) related to sequence listing (*specify*):
4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - the description, pages
 - the claims, Nos.
 - the drawings, sheets/figs
 - the sequence listing (*specify*):
 - any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2005/002952

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-7
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-7
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-7
	No:	Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.
PCT/EP2005/002952

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

- D1: EP-A-1 101 760 (IHARA CHEMICAL INDUSTRY CO., LTD; KUMIAI CHEMICAL INDUSTRY CO., LTD) 23 May 2001 (2001-05-23)
- D2: WO 96/41799 A (HOECHST SCHERING AGREVO GMBH) 27 December 1996 (1996-12-27)
- D3: PATENT ABSTRACTS OF JAPAN vol. 1999, no. 08, 30 June 1999 (1999-06-30) & JP 11 060562 A (KUMIAI CHEM IND CO LTD; IHARA CHEM IND CO LTD), 2 March 1999 (1999-03-02)

2. Novelty (Article 33(1) and 33(2)PCT)

The present subject-matter relates to compounds of formula (I)(see present Claim 1), their preparation and their use as herbicides. The present compounds are novel over the D1 compounds on the account of the halogen atom from position 6 of the phenyl moiety and over the D2-D3 compounds on the account of the present difluoromethanesulfoamide moiety. Consequently, the novelty of the present claimed subject-matter is acknowledged.

3. Inventive step (Article 33(1) AND 33(3) PCT)

The present subject-matter relates to pyrimidines or 1,3,5-traizines of formula (I) (see present Claims 1 and 4) useful as herbicides.

D1 and D2 can be considered equally as being the closest prior art documents.

D1 discloses pyrimidine sulfonamides, useful also as herbicides (see Claims 1, 9 and 11). The single difference between the present claimed compounds and the compounds disclosed by D1 is the substituent from the 6-th position of the phenyl moiety (substituent which in the present case is halogen and for D1 compounds is hydrogen, alkyl or an alkoxyalkyl group).

D2 discloses sulfonamides of formula (I)(see present Claim 1 and pages 100-102)

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/EP2005/002952

as herbicides. The single difference between the present claimed compounds and the D2 compounds is that the present compounds bear a difluoromethane-sulfonamide moiety instead of a trifluoromethanesulfonamide moiety as for D2 compounds (see compounds 10-57 and 10-58 from table 10-D2 and the present compounds of formula (I)).

The problem underlying the present application should thus be seen in providing of novel fluoromethanasulfonyl anilides with unexpected or surprising effects compared to those of the closest prior art.

The applicant provides comparative tests between the present compounds and the compounds C1(similar to those disclosed in D2) and C2(similar to those disclosed in D1)(see present description pages 36-43). Since, the above-mentioned comparative tests demonstrate a better herbicidal effect and less phytotoxicity for the present compounds(see tables 5-8), an inventive step can be acknowledged for the present claimed subject-matter.